

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
22 April 2004 (22.04.2004)

PCT

(10) International Publication Number  
**WO 2004/034050 A1**

(51) International Patent Classification<sup>7</sup>: **G01N 33/00**,  
27/12

(74) Agent: **GILL Jennings & Every**; Broadgate House, 7  
Eldon Street, London EC2M 7LH (GB).

(21) International Application Number:  
**PCT/GB2003/004322**

(22) International Filing Date: 8 October 2003 (08.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0223350.0 8 October 2002 (08.10.2002) GB

(71) Applicant (for all designated States except US): **CITY  
TECHNOLOGY LIMITED** [GB/GB]; City Technology  
Centre, Walton Road, Portsmouth PO6 1SZ (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SMITH, Peter, John**  
[GB/GB]; 127 Rutten Lane, Yarnton, Oxon OX5 1LT (GB).  
**PRATT, Keith, Francis, Edwin** [GB/GB]; 22 Roebuck  
Court, Didcot, Oxon OX11 8UT (GB).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,  
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,  
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,  
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,  
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

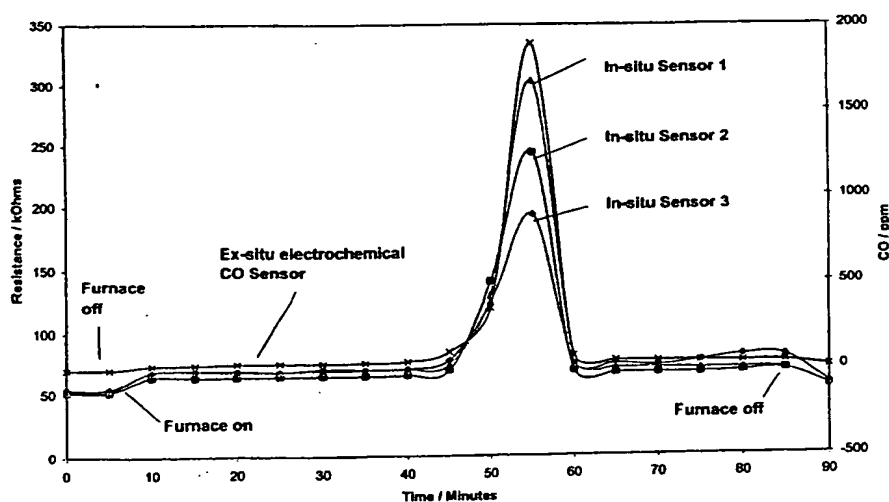
(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: **SOLID STATE SENSOR FOR CARBON MONOXIDE**



Behaviour of 3 p-type MMOS sensors in a flue atmosphere. The response of an electrochemical CO sensor in a cooled extracted sample of the gas is also shown.

(57) Abstract: A method of detecting a predetermined alarm condition in a combustion emission gas. The method comprises exposing to the gas a semiconductor gas sensor having a p-type mixed metal oxide semiconducting material of the first, second and/or third order transition metal series, the semiconducting material being responsive both to a change in concentration of a reducing gas in the surrounding atmosphere and to a change in concentration of oxygen in the surrounding atmosphere to exhibit a change in its electrical resistance. The resistance is monitored and an alarm signal is output if the resistance exceeds a predetermined value corresponding to the alarm condition.

WO 2004/034050 A1